WHIRRAKEE

September 2001 Vol. 22 No. 8

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MONTHLY NEWSLETTER OF THE BENDIGO FIELD NATURALISTS CLUB

Bendigo Field Naturalists Club Inc.

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Membership of the Bendigo Field Naturalists Club is open to all those interested in Natural History. The subscription rates are: Single $34; Family $40; Concession: Single $28.50; Family $34. *Whirrakee* subscription only is $34. These rates include GST.

General meetings are held on the second Wednesday of each month. The venue for General meetings is the Golden Square Senior Citizens Building, Old High Street, Golden Square. Meetings start at 7:30pm and conclude with supper. The Annual Meeting is held in September.

Committee meetings are held on the third Wednesday of each month at 7:30pm. Members of the Committee are the Office Bearers listed above, together with the following members:
Darren Green; Maurie Lewis; Kate Lottkowitz; Phil Robertson; Bob Ruddick

Excursions The assembly point for excursions is the Golden Square Senior Citizens Building, unless otherwise specified. Full-day excursions normally commence at 10am (usually on a Sunday); half-day excursions normally commence at 2pm and may be either on a Saturday or Sunday. Full-day or half-day excursions are usually held on the weekend following the General Meeting. Campouts are held several times each year, usually coinciding with long weekends or holiday periods.

The Bendigo Field Naturalists Club has one active sub-group:

Mammal Study Group: meets on the fourth Wednesday of the month at 7:30pm in the Golden Square Senior Citizens Building.

Chairman: John Burtonclay, Fadersons Lane, Mandurang (5439 5710)
Secretary: Bill Holsworth, 13 Nabilla Crs., Bendigo (5443 4063)
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Front Cover:

Photographer: Ian Flecknoe-Brown

The promise of it all.....

The bush is looking beautiful with many shrubs and herbs in bud or just freshly out.
The photo shows *Grevillea alpina* in bud. This species has had its ups and downs in our local bushland. Last year its display in the University bushland was glorious but this year, there seem to be fewer flowers again and the diseased leaves (a leaf miner causes yellowing of their leaves) appear more prominent.

WHIRRAKEE

Monthly Newsletter of the Bendigo Field Naturalist Club

Vol. 22, No. 8, September 2001

Whirrakee takes its name from the Whirrakee Wattle (*Acacia williamsonii*) which is virtually endemic to the Bendigo region

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Authors are responsible for the accuracy of the information they use and also for any opinions expressed in their articles.
Contributions will be included as soon as possible after they are received, although articles received more than one week after the monthly General Meeting will probably be too late for inclusion in the next issue of *Whirrakee*.
Articles in *Whirrakee* may be reproduced, but permission should be obtained from the Bendigo Field Naturalists Club, and acknowledgment should be given to the author and the Club. Some back issues are still available on request.

Editors' Note
Last month a printing error caused this page to be missing in the August Whirrakee. I can now safely say that it contained the most inspiring editorial, alas, never to see the light of day...no, it wasn't , not really...it was just, one more appeal to people to contribute to the running of the Club in light of the upcoming change of office bearers and committee membership. As always, this also includes a change of editorship of the Whirrakee. A nomination form is included again in this Whirrakee on page 13 (if need be, these can be brought to the Annual General Meeting).
Congratulations to the Highway-clean up team. Ten people managed to fill Matthew's ute with rubbish and some special plants were seen as well. Rod suggested to make a real botanical day of it next time (after the clean-up that is), see page 3. After seeing that plant list, I bet some of you wished they had gone too... (I did).
There is such a lot happening in September. Please refer to your leaflets for any 'Spring in the Bendigo Bush' activities as the Dairy page just was not big enough to list them all.

Adopt-A-Highway Program

Author: Matthew Comer

On Sunday 29th July, 10 Club members helped with the latest clean-up of the Seven Sisters section of the Midland Highway just outside Huntley. It was a warm, sunny day and the scent of the wattles filled the air, making very pleasant working conditions.

The enthusiastic band of volunteers were exhausted after collecting over 15 bags of rubbish which filled the ute to the absolute maximum. This highlighted the large amount of litter which has continued to be dumped since previous working bees.

The task was completed in good time and this gave us the opportunity to do something more familiar to field naturalists - we wrote a species list for the area. This section of the highway is well known as a significant area of remnant vegetation. The Whirrakee Wattle (*Acacia williamsonii*) and the Cryptandra (*C. tomentosa*) are two particularly noted species in the area, both of which were flowering profusely. Another interesting find was the Autumn Midge Orchid, which Rod Orr identified. There is also a diversity of other species which were recorded as we returned to the cars. In a short time we recorded 43 species for the area, as shown below:

Acacia acinacea	Gold Dust Wattle
Acacia ausfeldii	Ausfeld's Wattle
Acacia genistifolia	Spreading Wattle
Acacia implexa	Lightwood
Acacia pycnantha	Golden Wattle
Acacia williamsonii	Whirrakee Wattle
Allocasuarina leuhmanii	Buloke
Arthropodium strictum	Chocolate Lily
Astroloma humifusum	Cranberry Heath
Austrodanthonia sp.	Wallaby Grass
Austrostipa elegantissima	Feather Spear Grass
Austrostipa mollis	Soft Spear Grass
Brachyloma daphnoides	Daphne Heath
Bracteantha viscosa	Sticky Everlasting
Bursaria spinosa	Sweet Bursaria
Calytrix tetragona	Common Fringe Myrtle
Cassinia arcuata	Drooping Cassinia
Chrysocephalum apiculatum	Common Everlasting
Cryptandra tometosa	Prickly Cryptandra
Dianella revoluta	Flax Lily
Dillwynia sp.	Parrot Pea
Einadia nutans	Nodding Salt Bush
Enchylaena tomentosa	Ruby Salt Bush
Eucalyptus leucoxylon	Yellow Gum
Eucalyptus microcarpa	Grey Box
Eucalyptus viridis	Green Mallee
Genoplesium rufum	Autumn Midge Orchid
Glischrocaryon behrii	Golden Pennants
Gonocarpus sp.	Common Rasp Wort
Grevillea alpina	Cat's Claw
Hakea decurrens	Silky Hakea
Leptospermum myrsinoides	Heath Tea Tree
Lomandra glauca	Pale Mat Rush
Lomandra multiflora	Many-flowered Mat Rush
Melaleuca decussata	Totem Poles
Opercularia varia	Stinkweed
Ozothamnus obcordatus	Grey Everlasting
Pimelea humilis	Common Rice Flower
Thysanotus pattersonii	Twining Fringe Lily

....also lichens and mosses of various species....

Faugh-A-Ballaugh Flora Reserve
Part 2:
Striped Skinks (*Ctenotus robustus*) of Faugh-A-Ballaugh Flora Reserve

Author: Darren Green

In this article I introduce the habitat preference of the Striped Skink (*Ctenotus robustus*) and its association with other reptiles in the Faugh-A-Ballaugh Flora Reserve. This article is a continuation of the report submitted in the last *Whirrakee* (August), and is based upon a recent assignment submitted to La Trobe University (Bendigo).

Of the twenty-five species of reptile that are believed to occur within or around the Faugh-A-Ballaugh Flora Reserve, nine species (two geckos, two dragons, four skinks, and one snake) have been validated by the author. With the omission of the freshwater turtle, *Chelodina longicollis*, all species are largely terrestrial, with the exceptions of *Christinus marmoratus, Amphibolurus muricatus, Pogona barbata, Varanus gouldii*, and *V.varius*, which are also known to be partially arboreal. As no natural hollows have been observed in old growth trees, one can assume that terrestrial activities are restricted to basking behaviour or utilised in the search of prey, although *C.marmoratus* may also shelter under loose bark. This means that competition for terrestrial habitat is probably high, and the nine species occurring in the

reserve may be a more realistic figure of the Faugh-A-Ballaugh Flora Reserve reptile-ecosystem.

During the author's field work, the smaller reptiles (ie. *C.marmoratus, Underwoodisaurus milii, Lerista bougainvillii,* and *Morethia boulengeri*) were observed to shelter under leaf litter, vegetation, fallen timber, rocks and other ground debris, while larger sized reptiles (ie. *A.muricatus, P.barbata, Trachydosaurus rugosus,* and *Pseudonaja textilis*) were restricted to burrows and larger rocks, as any other substantial pieces of ground debris were absent. It is also noteworthy that *T.rugosus* was observed to shelter amongst clumps of *Dianella revoluta* in adjacent Box-Ironbark forests.

The preferred shelter sites for the medium-sized skink, *Ctenotus robustus*, included rocks with a diameter larger than 250mm, which had the greater part buried deeply into the soil. A burrow is excavated under the rock, where the skink can coil up or turn around at an enlarged chamber towards the end. It was here where the lizard was mostly encountered when lifting rocks, although several were encountered foraging in the open, before retreating to cover at my approach. On one occasion, *C.robustus* was encountered under the same rock as Bibron's Toadlet (*Pseudophryne bibronii*).

The habitat rocks were found in outcrops, on the northern face of ridges than ran north to west in direction. These outcrops, being at a higher altitude, are less inclined to gather water, thus ensuring dry earth beneath the "shelter" rocks. Had time and seasons permitted, it would have been interesting to study what effect artificial outcrops (eg. concrete roof tiles), in addition to existing outcrops, have on populations (ie. population growth, dispersal, and other relevant information).

Two or three individual *C.robustus* were encountered at each rock outcrop, ranging from sub-adult to adult size. In adjacent Box-Ironbark forests, I have encountered similar numbers of individuals at each outcrop. According to Greer (1989, p.156) aggressive behaviour towards its own species does not exist in captive specimens, suggesting the possibility of communal existence within a population. It would be interesting to see if this non-aggressive behaviour applies between neighbouring communities.

C.robustus is opportunistic in its feeding habits, insects being a dominant part of the diet, with more than 10% plant material (not specified) by volume (Greer 1989, p.155). The diet appears to reflect the habitat, vegetation being predominantly sclerophyllous, plant material may consist of soft flowers and herbage in spring, which tends to decrease by volume consumed through summer. *C.robustus* appears to have its own habitat niche in the Faugh-A-Ballaugh Flora Reserve, which perhaps explains why it is so successful across its distribution; its status is regarded as common and secure.

References

Greer, A.E. (1989) *The Biology & Evolution of Australian Lizards*, Chipping Norton, NSW: Surrey Beatty & Sons.

Acknowledgments

I wish to thank Tom Burton and Sabine Wilkens for their comments on the original assignment paper.

Response to Darren Green's Faugh-A-Ballaugh article (Part 1) from Bendigo Mining N.L.

27th August, 2001.

Dear Editor,

In a recent issue of *Whirrakee* (August 2001) an article titled "Faugh-A-Ballaugh Flora Reserve (part1) contained a significant misrepresentation of the threat to the reserve posed by the potential of mining.

As indicated in the article, Bendigo Mining, proposed utilisation of the area for mining activity. What is not made clear is the context in which that proposal was made and how, as a result of consultation and technical analysis, a better alternative was selected.

At the time Bendigo Mining had identified the significant potential for the discovery of gold resources below much of the urban area of Bendigo and the need to access target zones by way of a decline (tunnel). The company recognised the need for a rigorous assessment of potential impacts on the natural and social environments of such a development and embarked, with the agreement of the Minister for Planning, on the preparation of an Environment Effects Statement (EES).

The EES preparation commenced with the production of a scoping document. The initial scoping document, which was provided to the public and relevant authorities, proposed the Faugh-a-Ballaugh area as the site for the decline portal and associated infrastructure.

The specific purpose of the consultation with the authorities and the public in regard to scoping documents is to identify the issues that need to be addressed and to enable the best possible proposal to be made. In parallel with the consultation, the company continued to examine alternatives, including alternative portal sites.

One result of the consultation and the technical examination of alternatives was the selection of the Carshalton site as the portal site from a list of ten alternatives considered. The Carshalton site was preferred over the Faugh-A-Ballaugh and other sites for a number of technical, economical and environmental impact reasons.

This combination of engineering, economic and environmental considerations resulted in the development of a better proposal.

The EES process, requiring input from all stakeholders and a thorough consideration of alternatives, resulted in a determination that utilisation of the Faugh-A-Ballaugh area for mining was not the best alternative. Residents, conservationists, the authorities and, importantly, Bendigo Mining all contributed to this result.

The article makes reference to an ongoing "threat" of mining to the Faugh-A-Ballaugh Reserve. It should be recognised that a number of significant processes must be completed before any mining work can commence. Not the least of which is the requirement of either a Planning Permit or a ministerial assessment of an EES. It is important to realise that two tests that are rigorously applied to by the Council or the Minister are the questions of best possible proposal and net community benefit.

The application of these two tests ensure that mining of the Faugh-A-Ballaugh area, or any other area, will not occur unless there is no better alternative and, always, there is a positive benefit to the community.

The mining industry in general, and Bendigo Mining in particular consider the application of these tests to be appropriate.

It is recognised that the assessment of benefit to the community is not straightforward because it involves comparisons between what may appear to be incomparable. While the weighting up of economic development against environmental values is not an easy task, it is a task that must be undertaken to ensure both adequate protection of our environment and the maintenance of our living standards.

Bendigo Mining's experience to date has illustrated that with sound and active management any loss of environmental values can be minimised in the short term and, in some circumstances, eliminated in the long term. Our environmental management program has achieved some significant results in relation to rehabilitated areas, and include the following:

- The establishment of some 80 indigenous flora species. At least equivalent to the number of such species in the surrounding regrowth forest.
- The utilisation of rehabilitated areas by yellow-footed antechinus
- The occupation of nesting boxes by rosellas, a nightjar owl and numerous sugar gliders.

Bendigo Mining is proud of the work being carried out on the Carshalton site by Marilyn Sprague of Goldfield Revegetation and the site has become a focus for many students undertaking studies in environmental science and resource management. The Company welcomes visits by various interest groups.

While the Faugh-A-Ballaugh area, like the rest of the City of Bendigo, is covered by a mining lease, no mining can take place without the protection of the community's interests.

Yours faithfully

Douglas A Buerger
Managing Director

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This Time—Kakadu

Author: Tom Burton

Somehow, after eighteen years out of the tropics, I have managed to go north twice in the same year. Last time it was a collecting trip to north Queensland during the Wet (*Whirrakee*, March 2001). This time it was a holiday with my wife, it was the Dry, it was Kakadu. Having heard that Cane Toads were due to enter Kakadu this year (they have), we decided to visit before they took over, as they inevitably will.

We went as tourists, and, apart from a few short birding walks through the open woodlands and by Yellow Waters, most of the wildlife I saw and report here I saw while on organized tours. I rarely had time to sort out little brown birds, especially the ones with brown backs, white throats and lemon underparts. I describe some of the highlights and present a list of the animals I saw.

Probably the happiest two hours I have spent with sixty other people were the two hours of the Yellow Waters cruise. We had followed the advice of others who had been there before, and took the dawn cruise. By sheer good luck we were first onto the second flat-bottomed boat, and sat in front seats, so we had the best position for seeing the birds (and crocs) of these extensive wetlands.

We had not travelled more than a minute when we saw the first Green Pigmy Geese, the cutest of all the duck order, I think. These were very common, as were the egrets, mostly Intermediate—what a terrible name: 'Plumed' was much better—but Greats and Littles were there also. Radjah Shelducks and Plumed Whistling Ducks were very numerous, and the sky was never clear of Whistling and Black Kites. A number of White-bellied Sea Eagles were seen also, and one large female eagle stood tall on a dead branch just above her nest, which held a large chick. Forest Kingfishers darted into the water from the paperbarks. The full set of ibises was present—the Sacred, Straw-necked, and Glossy.

We saw many other birds, but I would have swapped them all for a single glimpse of a Jacana. As it turned out, I didn't have to do any swapping. Every patch of waterlilies our boat approached Cherie and I scanned with our binoculars, but more than an hour passed before we saw the first Jacana, and when we did, because I was so prepared for it, its appearance was a bit of an anticlimax. But what a great bird! From 10 metres, we had wonderful views. It looks in life exactly as it does in photographs and paintings—dapper and neat, with long, long toes. Maybe it would have been cheaper to have stayed home and looked at a photograph, but in the early morning light the whole wetland and all of its inhabitants were touched with a magic that even the best photographs cannot capture.

The second highlight or rather, series of highlights occurred on the same day. We went on a tour called 'Animal Tracks', which turned out to be a four-wheel drive visit to the buffalo farm run by the Aboriginal community, out-of-bounds to other tourists. We were joined by Patsy, an Arnhem Land woman who lives at the farm, and has a practised eye for spotting wildlife.

Our young tour guides, Sean and Hamish, seemed very keen on showing us buffalo and (ho hum) crocs (we had seen plenty of both species). Having stayed in Darwin a couple of times twenty years ago, before the eradication campaign, we were used to seeing buffalo and the mess they make of wetlands. The recovery of the northern wetlands following the virtual extermination of the buffalo from the wild has been remarkable. However, this tour was not all buffalo and crocs, and it gave us some unforgettable experiences.

The first came when we were put out of the car and told to walk through yonder *Melaleuca* forest. These paperbarks were tall trees, looking for all the world like eucalypts until we were close enough to see the bark. As soon as we entered the forest, we were surrounded by butterflies. This paperbark grove was a rest stop for the Common Crow, a black butterfly with rows of white spots near the margins of its wings, and the Lesser Wanderer, a smaller, less spotty relative of the better known Wanderer (aka 'Monarch'). Butterflies hung from branches like black wisteria flowers or fluttered all around us. It was like being in a butterfly house, except that the animals here were wild and free.

A couple of claws and a single basilisk eye staring at us from behind a tree trunk, about three metres off the ground, were the only evidence of an animal we had been told we could not see during the Dry. Patsy spotted it—we would never have seen it—a Frill-neck Lizard. Hamish walked around the tree, and as he did, the lizard shuffled around the trunk to keep out

of his sight ... but, of course, as it did so, it came into our clear line of vision. It was much bigger and more colourful than I had expected it to be, and exciting to see. In the Wet, they are everywhere, we were told, but in the Dry they are arboreal and hard to find, and our encounter was entirely typical.

That tour ended at a wetland from which buffalo are almost entirely excluded, but which is part of the farm property and off the normal tourist track. Here our guides lit a fire and cooked damper (which I usually hate, but not then) and we watched the sun set glowing red across the wetland, while maybe a few hundred thousand Magpie Geese honked, a Barking Owl woofed in the distance, and egrets and Brolgas settled down for the night.

That was the end of the tour, but not the end of the magic of this day. On the way back to Cooinda, where we were staying, Hamish stopped the vehicle beside a pandanus, and Sean passed back a torch and told me to shine it onto a pandanus leaf. Sure enough, there was a frog on the leaf, and on every leaf we inspected. It was the Northern Dwarf Tree Frog, a little green and brown frog, hence named *Litoria bicolor*. During the day, they hide deep in the axils of the leaves, kept moist there, and protected by the spines that run along the leaf edges, but at night they venture out onto the leaves to catch insects.

There were many other highlights. One night, we watched the sun set over Yellow Waters. On the way back, only a 15 minute walk through open woodland, we were overtaken by darkness, and saw the night shift of birds take over. A raptor glided in and landed on the dead tree next to us. In the gloom, I found myself looking at a Barking Owl. The sky was not dark yet, and we could see a bird swooping in a way I had never seen before in Australia. I said to Cherie, 'If we were in America, I would know what that was—a Nighthawk.' The moment I said that, I realized that the bird was a nightjar, because that is what the Nighthawk is. As we could see it only in silhouette, we could not see any wing spots, but the Spotted is the common nightjar in Kakadu.

You see—I could rabbit on indefinitely, writing paragraphs about such things as the abundance and diversity of flycatchers, differences between the Restless Flycatchers of northern and southern Australia, the excellent free slide shows and walks run by the rangers, the superb weather, the flocks of Rainbow Bee-eaters, the garish beauty of a flock of Red-collared Lorikeets feeding on the large, orange inflorescences of Fern-leafed Grevilleas (very like Silky Oaks), the absence of any introduced birds, and so on. But instead, this is what I saw.

Birds: Darter (with young), Little Pied Cormorant, Pacific Heron, Great Egret, Little Egret, Intermediate Egret, Rufous Night Heron, Black-necked Stork, Glossy Ibis, Australian White Ibis, Straw-necked Ibis, Royal Spoonbill, Magpie Goose, Wandering Whistling Duck, Plumed Whistling Duck, Radjah Shelduck, Green Pygmy Goose, Black Kite, Whistling Kite, White-bellied Sea-Eagle (n,y), Little Eagle, Brolga, Comb-crested Jacana, Masked Lapwing, Black-winged Stilt, Bush Thick-knee, Australian Pratincole, Whiskered Tern, Gull-billed Tern, Peaceful Dove, Bar-shouldered Dove, Red-tailed Black Cockatoo, Little Corella, Red-collared Lorikeet, Red-winged Parrot, Brush Cuckoo, Little Bronze-Cuckoo, Pheasant Coucal, Barking Owl, (?)Spotted Nightjar, Azure Kingfisher, Blue-winged Kookaburra, Forest Kingfisher, Sacred Kingfisher, Rainbow Bee-eater, Tree Martin, Black-faced Cuckoo-Shrike, White-bellied Cuckoo-Shrike (light and dark forms), White-winged Triller, Varied Triller, Rufous Whistler, Sandstone Shrike-Thrush, Broad-billed Flycatcher, Leaden Flycatcher, Shining Flycatcher, Northern Restless Flycatcher, Northern Fantail, Willie Wagtail, Grey-crowned Babbler, Silver-crowned Friarbird, Blue-faced Honeyeater, White-gaped Honeyeater, White-throated Honeyeater, Banded Honeyeater, Brown Honeyeater, Rufous-banded Honeyeater, Striated Pardalote, Crimson Finch, Yellow Oriole, Spangled Drongo, Great Bowerbird, Magpie Lark, White-breasted Wood-Swallow, Torresian Crow.

Reptiles: Salt-water Crocodile, Fresh-water Crocodile, Frill-neck Lizard, *Carlia amax* (a skink), and unidentified geckoes and dragons.

Frogs: *Litoria bicolor, Litoria microbelos* (Australia's smallest tree-frog).

Mammals: Buffalo, feral horse, ... and just missed seeing the Northern Bandicoot.

Butterflies: Common Crow, Lesser Wanderer, Blue Argus (gorgeous), Cedar Bush Brown.

From the Mailbag
Author: Elaine Mathison

Each month the club receives a number of newsletters and magazines: some by subscription and some in exchange for Whirrakee. These are available from the club library.

* * * * * * *

HABITAT(ACF)
June 2001

- A changing climate for the Kyoto Protocol? Australia clings to the coat-tails of the United States.

- Ten points to rescuing the Murray: Australians love to get behind a big idea and no idea is bigger than saving the Murray.

- Saving forests through competition: expansion of the native forest industry has come at the expense of the timber plantation industry.

- Australia....A Salt of the Earth: salinity is no longer just a farming issue but is seen by many as one of the greatest environmental challenges facing our country.
  ** Very relevant following Steve's talk at the August meeting.

* * * * * * *

THE BIRD OBSERVER(BOCA)
August 2001

- Feeding Observations: Egrets, Cormorants, Riflebird, Cockatoo.

- An Emu vs Dingo fight: on the Strzelecki Track.

- Sunbirds at Melbourne Zoo: a helping hand in the butterfly house.

- Coward Springs, SA: an oasis on the Oodnadatta Track.

- Bird Damage Control: the use of alarm and distress calls to deter "nuisance" birds.

THE VICTORIAN NATURALIST(FNCV)
June 2001

- The distribution and abundance of Little Penguins at sea in Western Port, Victoria.

- New "Tanjilian" fossil localities at Dungaree Creek, Central Victoria: revealed by forestry work in the Matlock district.

- Effects of grazing, tourism and climate change on the Alpine Vegetation of Kosciuzko National Park.

* * * * * * *

PARK WATCH(VNPA)
June 2001

- Phillip Island Nature Park: a report on the impact of recent changes.

- A Youthful Vantage Point: climbing St Mary Peak in the Flinders Ranges 70 years ago.

- Ecological Bushfire Management in NSW.

- The Whipstick Public Lands: the historical relationship between humans and this unique environment.

* * * * * * *

Also received recently:

*Castlemaine Naturalist(CFNC)
August 2001

*Ballarat Naturalist(BFNC)
August 2001

*Geelong Naturalist(GFNC)
August 2001

*Field Nats News(FNCV)
August 2001

*Irrigation Farm Dams(Dept. NRE)
July 2001

- The folder has the initial report on this important matter, the State Government's response, and the final report from the revue committee.

* * * * * * *

August General Meeting
Speaker: Steve Lottkowitz
Topic: Salinity Management in the Loddon-Murray Region

by Sabine Wilkens

Irrigation and drainage are inseparable concepts and this fact has long been known. However, for short-sighted planners, drainage may seem less important, does not give immediate profits and is often given much less priority than irrigation installations.
The results can be devastating, as some of Steve's slides showed. Water lying around the landscape, unable to get away, the tops of irrigation bays permanently waterlogged for the same reasons, ...nightmares for irrigation engineers.

During wet years, water can thus lie in depressions and wetlands (that normally have dry spells) and, as a result, local trees will die. Insult is added to the injury when the water that is lying around is saline (this saline discharge may be a natural phenomenon or induced by unsuitable land management practices).

Our rising water table (due to excess clearing of vegetation and excess irrigation) is well documented and makes a depressing story – but in this talk, Steve pointed out some activities in these irrigation regions that have made a real difference to this situation and halted or actually reversed the gloomy trends.

For example, Steve showed us a 'before and after-shot' of an area of the Tragowel Plains, two years apart. After stock was removed, the area fenced and planted with Tall Wheat grass, it was transformed from a bare salt scald to a productive grassy meadow.

Many changes in legislation have improved water use, one being the breaking of the connection between the title of land and its water rights. Water can now be sold and traded and water rights do not come automatically with a title. There is much more control of where irrigation water ends up, how much is to be recycled and how much salt is allowed to be discharged by communities.

The biggest breakthrough came from the involvement of the community in the management of the problem. As a result, any salinity management plans are strongly owned by the community and, for the first time, public money was deemed worth while spending on private land, for the greater good of the region/community.

Management strategies of such plans include the commissioning of whole farm plans, water recycling strategies, reduction of nutrient load, fencing salty soils (Class C and D), laser grading paddocks that are irrigated, shantying of drained irrigation water, raised supply channels, tree plantations to intercept seepages from channels, channel remodelling and re-lining, sub-surface drains, fencing of remnant vegetation, monitoring environmental quality, fostering partnerships between the community and the landholder and governing bodies (e.g. councils) as well as community field and information days.

With all those strategies either under way or being established, was has been achieved?

The trend of ground water rise has been steadied or reversed in some areas and much vegetation has returned. Of course, we have had many dry years and this effect is superimposed on the effect of the salinity management strategies but even taking away the drought effects, there is still some improvement in conditions. Alf Howe related his positive impressions of the condition of the land and its vegetation as he travelled to Lake Mungo earlier in the year.
650 km of surface drains have been installed in the region and there are very strict guidelines for new irrigators. Farm forestry is still in its infancy, but the current price of fire wood and further restrictions of collection of wood from public forests makes this a feasible undertaking. Experiences in this field so far have not all been good, many trees have established all right but died a few years later when the salt accumulated near their roots overcame their defence systems.

Steve introduced his talk saying that most farmers would do more for their land if they could afford to do so. This brief run-down of all the activities happening in the Loddon-Murray region shows the dedication of the communities to tackle the salinity problem. Despite the fact that results of such activities are never instantaneous, there is no hint of a flagging spirit. We ought to support many more such strategies, either financially or morally, for example by re-evaluating our perception how farmer think about and treat their land.

Bendigo Field Naturalists Club
Mammal Study Group – Annual Report

Prepared by Dr. W.N. Holsworth, Hon. Secretary

During the year, since August 2000, the Mammal Study Group continued with their traditional activities. Nine meetings were held. A BBQ with bat trapping was conducted on the usual meeting night of March 28, 2001. About 50 Club members and visitors came to help with the bat trapping, however, no bats were caught.

Our small mammal traps were hired to one group during the year to conduct studies authorised under their own permit.

During the year the Mammal Study Group initiated 3 new projects. In December 2000 we requested $1,200 from the North Central Catchment Management Authority (Bushcare/Biodiversity program) to obtain and install 45 nest boxes. Funds were received and the boxes installed in 3 corridor areas south and east of Bendigo. These boxes will improve the habitat for tuans and sugar gliders.

The Group also applied for, and received $280 from NRE to supply and install 10 boxes suitable for squirrel gliders in the Torumbarry Weir area. All the boxes were installed by March 2001.

The third project, initiated in June 2001, is to install a pair of large bat houses at Lake Weeroona. Funds ($300) were received from NRE to pay for the boxes and permission has been obtained from the City of Greater Bendigo to install the boxes. Location and design of mounting poles are currently being negotiated with the City.

The major topics of discussion at the regular monthly meetings were:

September 00 - Office Bearers for the year to September 2001 were elected. They were: Chairman - John Burtonclay, Secretary - Bill Holsworth, and Property Officer - Maurie Lewis. A program of discussion topics and activities for the year 2000-01 was planned. A paper on the diet of foxes was studied.

October 00 - Maurie Lewis reported on the work of the Deborah Reef Action Group. They have put up nest boxes for sugar gliders and tuans to link the Diamond Hill area with Spring Gully Reservoir area. John Burtonclay reviewed the role of sugar gliders in the forest community. The ecology and behaviour of Powerful Owls and Barking Owls was also discussed.

November 00 - Members of the group assisted with a tour by the Victorian Nature Photographers to Spring Gully Reservoir. Ian Fenselau led a discussion of the small mammals that are rare or missing from our local fauna. These included Planigale, Ningaui, Acrobates, Cercartetes, and Sminthopsis spp.

February 01 - Planning for the nest boxes to be installed at Torrumbarry Weir and connecting corridors in Mandurang. Funds from NCCMA ($1200) allowed us to buy 50 boxes. Two evenings of 'Possums After Dark' were held in Rosalind Park with about 80 persons coming each night.

March 01 - Bat trapping at Lake Weeroona.

April 01 - Report on Bat trapping, Trapping at Mandurang was conducted.

May 01 - A review of Antechinus biology, distribution and ecology was led by Kerrie Norris. Maurie Lewis and his team reported on the completion of checking all the nest boxes in Spring Gully Reservoir.

June 01 - John Grylls was invited to tell the members about the Fauna and Flora of Tang Tang swamp. Ian Fenselau reviewed the biology of the Spot-tailed quoll (*Dasyurus maculatus*.)

July 01 - Eric Wilkinson, former active member of the group, presented information on the rare Northern hairy-nosed wombat.

August 01 - Ian Fenselau led a discussion about the biology and management of flying foxes. Nominations were received for committee positions for the next year. They were: Chairman - John Burtonclay, Vice-Chairman - Maurie Lewis, Secretary - Bill Holsworth, and Property Officer - Maurie Lewis.

Living Links
An environmental program celebrating the Centenary of Federation

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To celebrate the Centenary of Federation, Greening Australia Victoria encourages Australians to participate in planting indigenous trees, shrubs and grasses to restore the Victorian environment at 20 major 'Living Links' community sites.
The 'Living Links' project involves a network of community planting events that will create *Living Links* between generations, between rural and urban communities and between areas of native vegetation.

The 'Living Links' project is one of a range of official celebrations endorsed by the Victorian Government – Centenary of Federation Scheme. It is Victoria's largest environmentally focussed program designed to include our whole community. The celebration of trees (a network of living links) growing to maturity will be the link into the next century.

The project is being coordinated by 'Greening Australia' in association with Parks Victoria, Conservation Volunteers Australia, the Department of Natural Resources and Environment, Natural Resources Conservation League, Catchment Management Authorities. local government, landholders and local communities.

A tree planting exercise is planned for the Streamside Reserve of the Bendigo Creek

When: Sunday, 23 September 2001

Phone 1800 899 444 for information or to register as a volunteer planter.

Annual Stella Bedggood Memorial Lecture. Field Naturalists Club of Ballarat Inc.

by John Gregurke

The Field Naturalists Club of Ballarat extends a cordial invitation to members of this club to attend their annual Stella Bedggood Memorial Lecture.

The guest speaker will be Professor Ian Plmer, Professor of Geology at University of Melbourne. The topic of his talk is "The History of the Earth in 45 Minutes". He uses evidence in the geological record to critically examine popular myths. His most recent book is "A Short History of the Earth".

The lecture commences at 8pm on Friday 5th October 2001. It will be held in the Ballarat Horticultural Centre, corner Gillies and Gregory Street, Ballarat.

ANGAIR 2001
Wildflower and Art Show

Memorial Hall, McMillan Street, Anglesea
Saturday 22nd and Sunday 23rd September 2001
10.00am - 5.00pm.

Adults:	$ 4.00
Pensioners/Students	$ 2.00
Children 12 and under	free

Large displays of wildflowers including orchids. admission includes Bus Tours to heath land areas, guided walks to selected wildflower and bird areas and entry to the Art Show.

Special feature:
Wildlife encounter presents: *Alive and up close*
A Wildlife Experience

For further information phone/fax 52633327 or phone 52896562.

Permaculture Bendigo
Meets on the second Wednesday of the month at 7:30pm in the Gravel Hill Gardens office building
65-71 Mundy Street Bendigo

Come along and share ideas and experiences.
Each month we will have a guest speaker
Cost $ 2.00 to cover tea, coffee, supper and energy used....

Fresh produce is also available at times. To enquire about this and other matters, please contact Evan Davies on 0419 472835.

Wednesday 12th September
LETS System Bendigo
Cath Holton will introduce the concept of LETS and explain how it works. A good opportunity to ask any questions you may have about LETS.

Wednesday 10th October
Mandala Chookdome System
Alan Parry will show how this highly productive vegetable-growing system works, with instructions on how you can set one up at home.

Wednesday 14th November
Bush Foods
Ryan Young will show us some of the Bushfoods that can be grown in the local area, and also how we can use them.

VFNCA 2001 Spring Campout
The Grampians 26th - 30th October 2001

hosted by the Ararat and District Field Naturalists Club and based at Camp Acacia in Halls Gap. The camp has been booked from Friday 26th until Tuesday 30th October.
For those interested, more detailed information about this camp was in the July *Whirrakee* (page3/4) and a booking form was included in the August edition.
All payment must be made by Friday, 7th September. Any cancellation after 1st October will incur a fee of $20.

Send booking forms to: Joan Pitaro 25 George Road Ararat 3377 ph 03 53523632

Wildlife Rescue & Information Network Inc.
W.R.I.N. is an organisation dedicated to the care of orphaned, sick or injured native animals.
It is fully endorsed by the Dept of Natural Resources and Environment.
Please call our Emergency Number for Help for Fauna in Need. Phone: 0419 356433

***Corella* Abstracts all on the Web**
The Australian Bird Study Association (ABSA) is pleased to announce the completion of our project to have the entire abstracts of *Corella*, from Volume 1 through to the current volume, on the web, searchable, for the convenience of researchers. See <www.absa.asn.au> and go to 'search', or 'publications'.

We thank Ian Endersby for his valuable assistance in this.

We are working on *Corella's* predecessor, *The Australian Bird Bander*, and hope to have these abstracts up soon.

Stein Boddington
President

Mining and Communities Conference

The Australian Minerals and Energy Environment Foundation, together with NRE and the Bendigo150 Years of Gold Committee, have organized a Conference to be held at LaTrobe University (Bendigo) on Wed. 26 Sept. 2001, starting at 8:30am and closing at 5:00pm.

The conference is to explore the importance of the 'social agenda' in the move to the triple bottom line approach to decision making. It will be a multi-faceted and national conference targeted at representatives of the minerals industry, government, universities and community representatives from across the country.

The cost for students and community representatives is $40.00. Registration is required by 15 Sept. 2001. More details will be at the Club's September meeting on 12 September.
You may register as an individual (cost $120). If you wish to register as part of the Bendigo Field Naturalists Club group (cost $40.00) please contact Bill Holsworth (Secretary BFNC) by mail, phone, fax (5443 6763) or email (wholsworth@bigpond.com.au).

Nomination Form for the Annual general meeting, September 2001

At the September Annual General meeting, all positions are declared vacant. Please consult the front cover of Whirrakee to see which types of positions become available, then use the form below for nomination. Bring the form with you to the AGM, or, better still, mail it to the BFNC before the meeting.
Nominations are accepted for executive office bearers as well as for committee members.

Nomination Form for positions of the Bendigo Field Naturalists Club.

Position:

Nominated by:

Nominee:

Bendigo Field Naturalists Club Donations

Note form Diane Collier, Club Librarian: Members may be interested to know that the following listed books are now in the B.R.I.T. Library. They are very much appreciated by Di Bish (Science) and will be much used.

Titles for Lending Collection:

A bushman's year/Jack Hyett
A census of the plants of Victoria 1928/FNCV
A key to the eucalypts/W.F.Blakely
Along the track/Morrison
An introduction to the Grampian's flora/R.Elliot
Animal behaviour/Frauca
Animals (periodical, Vol.3, No.7)
Animals without backbones, Vol 2/Buchsbaum
Around the bush with Vincent Serventy
Australia and Antartica/Bechervaise
Australia's wildflowers/Morcombe
Australian alpine life
Australian desert life
Australian eucalypts/Millet
Australian lizards/Davey
Australian National Parks.The South/Morcombe
Australian native plants for home gardens/Brooks
Australian orchids/Clyne
Australian rocks and minerals/Child
Australian seasons, summer and autumn/Fairley
Australian seasons, winter and spring/Fairley
Australian wildflowers/Dickins
Ayers Rock – Mt Olga National Park
Botanic gardens, Canberra/Dept of the Interior
Checklist of plants, Katherine Gorge National Park./Dunlop
Cheltenham Park, Native Flora Reserve Spring Walk 1982
Discover Australia's National Parks/Raymond
Eric Worrell's Australian Reptile Park, Gosford
Farm friends and foes/Fabre
First studies in inset life in Australasia/W.Gillies
First studies in plant life in Australasia/W.Gillies
Fisheries and Wildlife paper, Victoria – no 13
Flowers of western Australia/Ogden
Forestry in Victoria/Forestry Commission, Victoria
Forests and flowers of Western Australia
Geology for beginners/Watts
Growing Australian Native plants/Rogers
In search of Australia/P.J.Hurley
introducing Australian native orchids/Martin
Junior survival: Lizards/Gould League
Lake Pedder. Why a National Park must be saved. Launceston FNC/King

continued on page 14

Bendigo Field Naturalists Club Inc.
Speaker Syllabus for General Meetings 2001– Second Wednesday 8:00 pm

Please check each **WHIRRAKEE** for additional events or changes. If a workshop is planned, it will start at 7:00pm. The speaker will be introduced at 8:00 pm.

Date - 2001	Topic	Speaker
12 September	***Annual General Meeting***	
10 October	**Wildlife Shelters and Wildlife Rescue**	**Garry Cheers, Wildlife Rescue and Information Network Inc.**
14 November	**The Landscape Approach to Biodiversity**	**Geoff Park,** North Central Catchment Management Authority
12 December	**Christmas Dinner** At the Hall, Bring Salad, Casserole or Dessert. Come early, to sit down at 6:30, and visit with friends for as long as you like.	

continued from page 13...

Weekend historic walks/Dowling
West Australian plants/Beard
Wildflowers of the Adelaide Hills/Eardley
Wildflowers of the north and centre/Morcombe
Wildflowers of the North-west/Beard
Wildflowers of Western Australia
Wildflowers of Western Australia/Morcombe
Woodland wildflowers of Tasmania

Books for Stacks

A census of the plants of Victoria 1928/NNCV
Australian nature stories/R.K. Monro
Handbook of forest trees for Victorian foresters/A.J.Ewart
Memoirs of the National Museum of Victoria, Melbourne, no16, December 1949
Plant list for King Island, Bass Strait
south Australian plants with fleshy or bulbous rootstock/T.R.N.Lothian
Tepper's trigger plants/N/Lothian (pamphlet)
The North Queensland naturalist, vol.35 (147), November 1968
Trees for farm planting/Natural Resources Conservation League of Victoria
Victorian orchids/H.P.Dickins
Wildflowers of Victoria/J.Gailbraith
Eucalyptus nomenclature/G.M.Chippendale

Books for Reference

Along the track/C.Morrison
The Arachnida/T.H.Savory
Orchids of Australia/W.H.Nicholls

Diary

The General, Bird Observers Group and Mammal Survey Group meetings are held at the Golden Square Senior Citizens Building, Old High Street, Golden Square, unless otherwise indicated.

General Meeting

Wednesday, September 12

7:30pm Annual General Meeting

Wednesday, October 10
7.00pm this month we will have a workshop on spiders conducted by Jenny Shield, Honorary Associate, LaTrobe University, Bendigo.

8.00pm the speaker in October will be Garry Cheers from W.R.I.N., Wildlife Rescue and Information Network Inc. and the topic will be "Wildlife Shelters and Wildlife Rescue".

Bird Observer Group

October excursion.....date to be announced
Spring Gully area.
Contact Bev Brooks ph 54422990

Sunday November 11
Bullock Creek
Meet 9am - in Lockwood Road, Kangaroo Flat lights (carpool)
or 9:30am - Lockwood Picnic/Sports Reserve (car shuffle)
The locals are enthusiastic about the bird life along BullockCreek, and are keen to share it with us. We will have access through private property along the creek for a couple of kilometres. The walk will finish at the Picnic/Sports Reserve where people will be able to utilize the BBQ and continue bird watching and chatting.
Junior birdos welcome.
Contact Kerrie Norris 54478017.

Mammal Study Group
The Mammal Study Group will meet as usual at 7:30pm on the 4th Wednesday each month (Sept. 26). All members of the Bendigo Field Naturalists Club are welcome to attend the activities of the Group. The Topic of discussion will be the Brush-tailed Possum.

Other Events

Beauty of Nature Art Exhibition
by Kunchana
7th September - 28th September

Penfolds Gallery, View Street, Bendigo

Sustainable Housing and Gardens Tour

22nd September
10 am - 4 pm

starting at Gravel Hill Gardens
Rear of Salvation Army's Gravel Hill Site, Bramble Street

$10.00 per person, $ 25.00 per car load.

Living Links Project
A tree planting exercise is planned for the Streamside Reserve of the Bendigo Creek

Sunday, 23 September 2001
see page 11 for details.

Mining and Communities Conference

Wed. 26 Sept. 2001, 8:30am - 5:00pm.
LaTrobe University (Bendigo)
see page 12 for details

Annual Stella Bedggood Memorial Lecture.
Field Naturalists Club of Ballarat Inc.

"The History of the Earth in 45 Minutes"
by Ian Plimer
Friday 5th October, 8pm
see page 11 for details

The Box - Ironbark Rally Camp

October 6 and 7
Paddy's Ranges Maryborough

see page 10 of *July Whirrakee* for details.
If interested contact Kerrie Norris ph. 54478017

VFNCA 2001 Spring Campout
The Grampians 26th - 30th October 2001
see page 12 for details